

**Amendments to the Abstract:**

Replace the Abstract with the following:

A method of analyzing a patient tissue sample to determine its diseased tissue fraction while essentially preserving the genomic and/or proteomic and/or epigenomic and/or biophysical properties of the tissue sample. The method includes preparing sections from the tissue sample, subjecting at least one of the sections to a histological/cytological examination, and subjecting at least another one of the sections to a non-morphological analytical testing. In the histological/cytological examination, a quantitative fraction of diseased tissue/cells and/or another morphological aspect is determined by an image processing system, and the determined quantitative fraction of diseased tissue/cells and/or another morphological aspect is used as a reference quantity on which evaluation of the result of the non-morphological analytical testing is based.